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## TENDENCIES AS TO THE ENLARGEMENT OF THE SECONDARY FIELD.

ALL fields are enlarging, and of course secondary education is no exception to the rule. We are getting nearly three times as much steam power from a pound of coal as we did half a century ago. We are also obtaining nearly three times as much result from the same mental effort as we did then. A boy was then put to learning a dozen pages of Latin grammar in advance of any actual use for either rule or exception. Today, with the aid of machinery, the workman can make in three hours a day all the absolutely necessary things of life—in fact, more than he could have produced by working all his time a century ago. Today, with skilled teachers, who know how to quicken intellect with sympathy, how to join facts together with hoops of logical steel, how to avoid the waste of marking time and of mere unintellectual repetition that adds nothing, we can accomplish in one-third the time all that we achieved half a century ago. Just as the workmen go out into new fields to employ their added increment of time, so the secondary school must enlarge its field of operation to use up the time gained. The secondary school has already enlarged so much, due to the pressure of the colleges without and to its own needs within, that it feels that it requires more time than it has at its disposal.

The grades, however, are so much better taught than they were half a century ago that they spend a part of the time thus gained in marking time, in the mere mechanics of repetition that does not instruct, and in advancing into jungles that might better be left for high-school exploration. The secondary school wants at least one, and perhaps two, years of this time. The secondary school would like to begin two years earlier to teach such subjects as Latin, the modern languages, and the relation of common things, sometimes known as science. Instruction in these branches without a skilled specialist is a hundredfold more

damaging than no instruction. The secondary school alone can afford such specialists.

Some would say that the subject of this discussion is a misnomer; that we cannot speak of enlarging primary, or secondary, or college, or university education; that, since education is a continuous process, each step depending on foregoing steps, we can speak only of enlarging education. Probably no one who has given the subject any thought doubts the continuity of education. Probably no one not entangled in metaphysical argument, would contend that there is no difference between primary and university education. It is true that water goes through a continuous orderly process to become ice, and even then it does not change its essential nature, but you and I would hardly care to trust ourselves to any captain of an Atlantic liner who in the vicinity of icebergs paid too much attention to arguments about the essential unity of water. We should expect such a captain to wreck his vessel. Those who introduce primary methods and discipline into a high school will wreck the school.

Mr. Stratton D. Brooks, in his discussion of the reasons for withdrawing from school, shows that some pupils in the upper grades leave because they require different treatment from younger pupils. He emphasizes the fact that high-school ideals and management should differ from those of the grades. Commenting on cases where they do not, he says—and I quote him word for word: "This accounts for the fact that grade teachers when transferred to high-school work almost always fail." I myself believe that grade teachers frequently succeed, but only in cases where they have the power of adapting themselves to the changed needs of the high-school pupils. Secondary schools need enlarged ideals, more freedom, and methods that drop the plummet deeper. Dispose of your apron-strings faster and faster as you advance in the seventh grade, is sound advice in the economics of education. I hope to live to hear more high-school economists say: "There's husbandry in my school. My stock of apron-strings is nearly all closed out."

This paper intentionally leaves to those that follow the exact statement of enlarged secondary programs. It endeavors to

indicate some general ways in which secondary education must be enlarged, if it is to fit for life.

The secondary school must be so enlarged as to give more scope to probable reasoning, as opposed to mathematical reasoning. Few things in life are certain except death and taxes. One reason why the farm proved such a magnificent school for our ancestors was because it gave them so much practice in probable reasoning. This type of reasoning is the one always employed to deal with new and untried emergencies, with changing conditions; in fact with the vast majority of issues that confront us in life. A country youth one March night hitched his horse to an old buggy and started to see his sweetheart. In the darkness he drove into a mudhole. The whiffle-tree began to crack when he urged the horse forward. Another pull and it would break. He would then have to get out in the mud, ruin the polish on his shoes, and be compelled to return home. With hardly a second's hesitation, he seized the ends of the whiffle-tree, and with his own muscular arms he relieved the strain, as he called "Go-long" to the horse. The buggy came out all right. That country boy deserved his girl, and we hope that he won her. The city boy has received from athletics, and from dealing with his fellows on the playground, his best training in probable reasoning.

When a farmer plants a crop, or when a business man makes an investment, he can look at the end of no arithmetic to find out his certain profit. No teacher can give a mathematical answer to the question: "What degree of success will my pupils have reached five years after graduation?" Life never points to more than probable success. In school the tyranny of mathematics has been as great as that of the classics. President Eliot has complained that from one-sixth to one-third of the whole time of American children is given to arithmetic, and he has impeached it because, as he says, "it has nothing to do with observing correctly, or with recording accurately the results of observation, or with collating facts and drawing just inferences therefrom, or with expressing clearly and forcibly logical thought."

Much of the mathematical reasoning taught in our high schools, as well as in our grammar schools, is necessary for experts only. It has not the excuse of affording exercises in the probable reasoning necessary to deal with the changing conditions of life. In developing rule-of-thumb reasoners our schools have already done fairly good work.

There cannot be the usual uniformity in courses that are best for developing probable reasoning. Those ages which advanced the world the most were the least uniform. The world took a mighty stride ahead in Elizabethan times, but there was less uniformity in belief and action than in the preceding reigns. When Drake met the Spanish armada, he fought against captains of whom Philip of Spain had required absolute submission and sameness of opinion in all matters pertaining to church and state. This uniformity had produced an uninventive frame of mind. The individuality and skill of the English won the battle for them in spite of the small size of their ships. If scientific investigation of the nineteenth century has proved any one thing, it is that progress comes only from those who vary from the common type.

The secondary course must be so enlarged that no one pupil can take it all. Life is so complex that no one person can live it in all its phases. All of us are constrained to omit something that we should like to do. As the pupil grows older and has mastered those foundation studies on which advancement in all depends, he should be given increasing opportunity to select studies in terms of his own individuality. Division of labor has added so much to life because it has allowed individuals to be classified according to their capacity and natural tastes. Foreigners have said that the success of American manufacturers is largely due to their "scrap heaps" on which they throw an old machine as soon as a better one appears. Optional courses may serve as a stepping-stone to relegating to the "scrap heap" many unnecessary branches and inferior teachers.

The tendency towards secondary enlargement has been felt for a long time. The English course has been so enlarged and improved during the past twenty years that we are justified in

saying that a new English course has been added. During this period manual training has been introduced. Right here critics are saying that this tendency to enlargement results in expensive mistakes; that it fails to hold pupils in school as well as the older régime. They are quoting, in answer to those who claim that manual training enlargement would furnish the secondary bliss for which we sighed, the testimony of one of the great superintendents of the country, who at the superintendents' meeting in February, 1903, said: "With the largest city manual-training school in this country, after several years of experience, we have found thus far that it neither holds pupils in school so well as do the other high schools, nor do they pursue their studies so persistently; that is, they do not stick to what they start in with so continuously in mathematics, Latin, German, French, English and natural science."

The trouble here is not with the manual-training enlargement, but with the fact that much of it is put in the wrong place. In manual training many schools have reversed the correct order of things; for the young child should be busy getting control of his body. Later, at high-school age, it is the proper time for him to lay the main stress on getting control of the field of ideas. He has a sort of blind consciousness of what should be his work in the high school, and if he is too much diverted from this end, he grows uneasy and leaves. Much of the manual-training work given is fit only for the grades. The fact that a mistake has been made is not in itself an argument against secondary enlargement. But before we proceed further, we ought to feel that additions to the secondary course are not to be made on mere theory. The chances of mistakes are many. We cannot recall the youth of our pupils to remedy those mistakes. It is the business of educational organizations to recommend a change only after careful deliberation. But our hesitation must not be so pronounced as to preclude growth. The enlarged English course is of itself sufficient to justify attendance at the secondary schools.

We come now to the point of transcendent importance. Secondary education stands most in need of enlargement on its

moral side, in its aims and ideals. How shall the high school fit its pupils better for life? is a question often asked. Even its friends would hardly contend that vast improvement is not necessary in this direction. To fit for life requires two things. The first essential is ready adaptation to varying needs and emergencies. This is the intellectual element, and progress in this direction has been more marked than in the second requisite, which is moral development. Of course, the intellectual cannot be entirely divorced from the moral. But intellectual progress for the past fifty years has been much more pronounced than moral development. The secondary school has not played the part in moral advancement that the nation has a right to demand. There must be enlargement along moral lines. The high-school graduate must be so fashioned that he can become his own master at the day of graduation. He must order intelligently the use of his own spare time. This is as important as to harness Niagara's waters. He must have sufficient power of moral resistance to enable him to walk by the gambling house, to avoid spirituous liquors, to spurn "get-rich-quick" methods, to battle for civic and social righteousness, to be content to stand entirely alone during some of life's bitter hours, not joining the crowd to deny the right ere the cock has crowed thrice.

Is it true that an old Grecian stoic would notice that almost all our high-school examinations are examinations of the intellect, in so far as it is in our power to make them so? If this is true, it is a severe impeachment. Can knowledge without character ever furnish maximum results to either the individual or the world, no matter whether it is knowledge of bookkeeping, of how to run a bank, or of a city government? Moral backbone alone will secure a hundredfold yield from individual, social and commercial life. If the high-school graduate continues his intellectual development on the right plane, it will be because moral development furnishes the incentive. Character will apply the spur, and the individual will, like Milton, feel that he is ever in his great Taskmaster's eye. We can train our pupils to say: "What matter if the winter is long at Valley Forge; if the opposing forces are strong; if the craven calls in our ear to sign a truce;

if the enemy offers us bribes? You need never doubt us. There are no Arnolds here. We have been chosen to perpetuate this republic, to tend its hearth fires, and keep them brightly burning."

I would not have the high school pay less attention to the things of intellect, but I would have it heed more that moral development which should be as all-enveloping as the summer air and sunshine which enwrap the earth and ripen fruit and grain. Every time that teachers aid a pupil in doing something for another, and in recognizing that all commerce is based on doing something for others; every time they aid him in inhibiting the expression of an undesirable emotion, in repressing the tendency to waste his time when left to himself, in suppressing an inclination toward irregularity, in reacting rightly toward the small duties of life; every time they teach him to form intelligent moral judgments on the acts of his classmates, teachers, the citizens and public officials of his town; every time they cause him to feel deeper sympathy with others from noticing his own lack of perfection; every time they give him a glimpse of the laws of life and show him that anything immoral is necessarily in immutable conflict with them; every time they lead him to recognize the fact that he himself naturally dislikes what is wrong in others, and, as they teach, call to their aid the force of human gravity toward what is joyous and noble and self-sacrificing and divine, by throwing on the screen of school life a well ordered change of pictures embodying such traits; every time the teachers recognize that they themselves must be the fountain whence the moral waters flow and that the pupils of an enthusiastic moral teacher, moral every time in small things as well as in great, will themselves as naturally tend to be moral as the buds tend to unfold when the warm spring sun shines; every time that education advances on lines like these, it is enlarging in the noblest sense. I think that the tendency in this direction is today the most pronounced of all.

No matter if the intellectual element apparently lags behind, time must be taken to secure more certain moral results and to



add to the world of self-governing republics every graduate of the secondary school. Those graduates who have had developed in them moral sinews of steel are already fitted to grapple with the most of life's emergencies.

REUBEN POST HALLECK.

PRINCIPAL'S OFFICE,  
Boy's High School, Louisville, Ky.